THE VETERINARY RECORD

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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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THE "NATIONAL" MEETINGS.

Last week we reported the proceedings of the annual dinner of the "National" which took place on the evening of the first day of the meetings. Some account is also necessary of the other social entertainments which followed the termination of the business meetings on the afternoon of the second day. Then the "National" members became the guests of the Central Society, and the evening of that day was spent enjoyably at the Coliseum at the invitation of the latter.

The entertainment on the third day was a distinct innovation. In place of the usual long country excursion, the day was spent at the Japanese Exhibition at the White City. Luncheon and tea were provided—in a reserved room, of course—at stated hours; and for the rest of the time the members consulted their individual tastes in sampling the very varied sources of amusement and instruction to be found in the Exhibition. Those who desired to learn something found ample opportunity; and some perhaps even succeeded in gaining a little pathological information from some excellent exhibits of tropical medicine which are to be found at the Exhibition. Most, however, gave the day chiefly to amusement, and such entertainments as the scenic and mountain railways, the "witching waves," and even a somewhat diabolical churning apparatus known as the "wiggle-woggle," received ample patronage from the members. But, in whatever fashion each individual elected to spend the day, there can be no question that the promoters of the entertainment chose its form wisely. The attendance alone showed that the programme suited the general taste; 135 members and visitors, of whom 60 were ladies, sat down to luncheon, and 122 in all to tea, very few thus having found it necessary (as is often the case in the long excursions of the "National") to leave the party early to return home. And the expressions of satisfaction with the day's pleasure were universal.

Mr. T. S. Price, the President of the Central Society, presided at luncheon and tea, and his genial presence fostered the prevailing spirit of good fellowship throughout the proceedings. His health was heartily drunk at luncheon, as was also that of Mr. H. A. MacCormack, the Central Secretary, to whose zeal and unlimited capacity for hard work a great deal of the success of the day was due. Both alike did credit to the Society they represented, and deserve well of the larger Association which they entertained.

So terminated the twenty-eighth annual meeting of the "National," and the number of those attending it, no less than the nature of the discussions, showed the steady progress the Association is making. Every year the "National" becomes more powerful as a factor in unifying the scattered forces of the veterinary profession, and it is possible that another year or two may see its influence extend far further. If the Committee of the National Association, now entrusted with the consideration of the proposals for union with the Societies, can devise a practicable scheme, the "National" will enter upon a new and much more extensive sphere of activity. If not, the "National" will continue to work in its present more limited sphere; but even in that case it will continue to work successfully, and to extend its influence gradually in the future, as it has been done for so many years in the past.

COUGH IN PREGNANCY.

Mr. Thompson's note on another page brings us a little further forward with regard to this subject. We know now that in England, as in Germany, some experienced clinicians recognise the existence of this cough; and as far as England is concerned, that has been the case for more than half a century. On the other hand, in Germany at least, there are also clinicians—probably equally experienced—who deny the existence of such a cough; and very possibly the same truth applies to England.

As we have already said, it will require much more than two or three opinions, however weighty, to settle the question; but, now that it has been publicly raised for the first time, some attempt should be made to place it permanently before the notice of clinicians. Its discussion before a meeting of country practitioners would not only help to do this, but probably also produce a useful comparison of experience. Apart from its direct interest and importance, neither of which are negligible, the question conveys an indirect moral. It illustrates the truth that, despite our now fairly extensive literature, there is a great deal of veterinary symptomatology, more or less widely known to clinicians, which has never yet found its way into printed records. That truth applies even to equine practice; it applies more forcibly to canine and feline practice; and most forcibly of all to purely country practice.

REMARKS ON PNEUMONIA IN THE HORSE.

By E. Wallis Hoare, f.r.c.v.s.

(Concluded from page 70).

In very plethoric horses, such as cart stallions in high condition, pneumonia often shows certain peculiarities and is frequently fatal.

A common clinical history is that the animal has been purchased at one of the large shows and subjected to a long journey by rail or boat afterwards. In such cases the stage of engorgement is well-marked, the dyspnœa appears early, the temperature runs high, and the pulmonary congestion rapidly passes into pneumonia. Death usually occurs early; the lesions are generally extensive consolidation of one lung and an œdematous condition of the other.

The dullness on percussion is well marked and extensive, and the cause of death would appear to be asphyxia plus over-distension of the right side of the heart.

The early appearance of dyspnœa in such cases is in striking contrast to the slight amount of respiratory disturbance which is met with in ordinary cases of lobar pneumonia in the early stages.

Broncho-pneumonia is generally a secondary affection. Whether this form of pneumonia ever occurs as a sporadic or primary affection is a doubtful matter.

It is commonly met with as the result of the careless administration of drenches, the fluid entering the bronchi. Under such conditions the disease may occur even in a perfectly healthy horse. But we meet with cases in which pneumonia does not develop, even when linseed oil has entered the bronchi.

In my experience more serious and fatal results are likely to follow when the animal is already suffering from a catarrhal affection of any part of the respiratory system, No doubt the character of the fluid administered has an important bearing on the lesions produced, irritant or insoluble materials being most likely to prove dangerous.

It is believed that such cases also depend on the presence of micro-organisms, the latter being carried from the mouth and pharynx by the medium of the fluid. The injury to the mucous membrane of the bronchioles caused by the presence of an irritating fluid, no doubt permits the entry of the micro-organisms. But cases of broncho-pneumonia have been met with as the result of intra-tracheal injections, when the latter were of an irritant nature. As these injections are usually made in cases of purpura hæmorrhagica the probability of bacterial infection cannot be overlooked.

Pneumonia as the result of drenching is generally bi-lateral, but I have lately seen a case in a cow, in which only the right lung was involved.

According to Friedberger and Fröhner this form of pneumonia shows a combination of lesions, viz., catarrhal, croupous and gangrenous.

Pulmonary gangrene. As already mentioned, this termination of pneumonia is not common in country districts, and in some years I see few cases of it even in outbreaks of epizootic pneumonia in town practice. An important point is that fœtid breath and fœtid nasal discharge are not always diagnostic of pulmonary gangrene, as these symptoms may depend on the bronchial secretions having undergone decomposition.

One of the worst cases of extensive pulmonary gangrene I have ever seen was in a valuable five-year-old hunter, to whom the owner administered a pint of linseed oil, a large portion of which entered the bronchi. The oil was given with a view to improve the animal's condition. The owner knew what had happened, but being wise in his own estimation, he had the horse galloped in order to "get rid of the oil." The symptoms of pulmonary gangrene rapidly developed, and a fatal result soon followed. In this case the temperature for the first two days was 107 F.

It is difficult to explain the prevalence of gangrenous pneumonia in some outbreaks and districts, and its comparative rarity in others. Since the practice of drenching horses suffering from pneumonia has now, to a large extent, been abandoned, and have found still fewer cases of this serious termination.

The bacteriology of sporadic pneumonia is in just as unsatisfactory a condition as that of the epizootic form of the disease.

According to Cadiot, various micro-organisms are found in the hepatized areas, which include a micrococcus presenting certain analogies with the pneumococcus of man, and a streptococcus which, according to some authors, is a modified form of the micro-organism of epizootic pneumonia.

It is to be hoped that further investigations will result in some definite knowledge on the subject being forthcoming. At the present time more attention is directed to the investigation of diseases which are of far less importance. With an affection so common as pneumonia in its various forms there is surely no lack of material or of opportunities for research. But it is of importance that the clinician and the pathologist should work together in such an enquiry. Unfortunately there is a tendency for the clinician to fall into the rut of every day experience, and to neglect observations which might prove of value.

On the other hand the pathologist is apt to overlook the aspect of the disease as it occurs under various conditions, and to assume that the evidence obtained from experimental work coincides with, and is of similar value to that derived from actual observation of cases.

Until this joining of forces is accomplished the subject is likely to remain in its present unsatisfactory state.

No doubt, as compared with former times, two important facts are known; one is the contagious nature of the disease, the other is that little can be done in the way of medicinal treatment.

More cases recover because less medicine is poured down the animals' throats and more attention is paid to hygienic and dietetic details. But in order to discover some reliable preventive treatment for the disease some knowledge of its bacterio-

logy is essential. And considering the serious nature of the affection not only from a fatal termination, but also from the losses due to incapacity for work, and the unfortunate sequels that often ensue, it demands more attention than has previously been accorded to it.

The large number of cases of respiratory unsoundness due to pneumonia and allied affections renders this subject of vital importance to the breeders and owners of horses.

RADIAL PARALYSIS.

I have been much interested in Mr. E. Wallis Hoare's article on the subject, published in your issue of the 30th of July, as I happen just at present to have a similar case under treatment, occurring in a yearling thoroughbred filly.

Running out with a few other young ones, she was found one morning with the near fore leg pendulous and with much swelling at the point of the shoulder. A neighbour of mine saw the case, but as there was so much swelling and no crepitus, naturally he gave a guarded opinion and a liniment was applied. When I saw the case about 14 days from its commencement the shoulder was still swollen, the leg hung quite limp, with the toe pointing to the hollow of the heel of the sound limb, but there was no dropping of the elbow, and the usual examination for fracture gave negative results.

When the limb was put into its natural position, and pressure applied to the front of the knee, the filly put her weight on to it and stood quite naturally until required to move, when the limb quickly assumed the position mentioned above. I consider the foregoing procedure is diagnostic of this condition, differentiating it as once from fracture.

The treatment adopted was a mild charge to the swollen part and perfect freedom allowed in a paddock. When seen three weeks later there was a slight improvement, but much atrophy of the muscles at the top of the scapula. Another mild charge has been applied where the atrophy is, and I am hoping for a favourable termination.

J. Kerr Calderwood, M.R.C.V.S.

Clitheroe.

COUGH IN PREGNANCY.

Since the advent of the present month (July) I have been busy squaring up the books and looking after the needful! So that I have been somewhat remiss in attending to the pages of *The Record*. I was, however, surprised to notice in your editorial of the 23rd July that there seemed to be some doubt about a cough in cattle arising solely from pregnancy. I was under the impression that this was known and had been noticed by country practitioners, although not recorded.

In 1857-8, when assistant to the late Mr. Jos. Carlisle (Carlisle and Bell), Carlisle, I remember Mr. Carlisle naming the cough, and have heard him tell some of his clients to "never heed the cough, the cow is in calf and doing well, and as soon as she calves the cough would leave her." Since that time I have frequently noticed the short, tight, cough, and like Mr. Carlisle I have told the people that the cough would be got rid of when the cow calved.

Again, when injecting the womb after the removal of a filthy, stinking placenta, should the water be a little too hot, immediately it is pumped into the womb the cow will invariably give a *short tight cough*, but it is most pronounced when cold water is injected into the uterus. Although I have not noticed the subject in veterinary literature, I have named in my "Elementary Veterinary Lectures," third edition, page 221, under *cough*, that cough "may arise through reflex action from parasites in the stomach or liver, and *from irritation of the womb*," basing my record of the latter on noticing the cough whilst injecting the womb, as well as hearing it, when the cow is pregnant. Perhaps some of the many country practitioners may have noticed the matter?

Henry Thompson, M.R.C.V.S.

Aspatria.

ABSTRACTS FROM FOREIGN JOURNALS.

Tumours in the Heart of a Horse.

Hauben, of Grimberghen, records the following peculiar case. In March, 1906, he was suddenly called to a two-year-old gelding, which had started that morning—being then apparently in good health—to convey some sacks of grain to a mill not far distant, and on the way had suddenly slackened his pace, fallen, and then found it impossible to rise.

About an hour after this accident Hauben reached the patient, and found him lying immobile in the middle of a field and incapable of rising, despite the most energetic stimulation.

Hauben diagnosed the case as one of azoturia, although the classic symptoms of that disease—hæmoglobinuria, etc.—were absent. He had the animal taken home on a sledge and bled him, withdrawing six litres (about 10½ pints) of blood. To his great surprise the horse got up immediately afterwards, began to eat the straw of his litter, and moved about as if nothing had happened. After this occurrence the animal was sold and lost sight of.

Three years later—in April, 1909—Hauben was called by another client to a five-year-old gelding, which had been in his present owner's possession for about a fortnight, and during that time had been submitted to very hard work. Upon entering the stable after his habitual work this horse had laid down and had not succeeded in rising again. The respiration was normal, the pulse was accelerated, and the temperature was 100·4 F. Hauben diagnosed the case as exhaustion due to too hard work and to a change of food. He prescribed rest and

tonics; but, three hours after his visit, the horse rose again and appeared recovered.

Another fortnight passed without the appearance of any abnormal symptoms, but at the end of that time Hauben was again called to treat the same horse for a similar attack. In the meantime it had been ascertained that this was the same horse that Hauben had first treated three years before, as stated above, and that since that time he had changed hands frequently on account of the recurrence of these symptoms.

This time, however, the condition of the horse was serious. The pulse was 90 per minute, the respiration was accelerated and deep, and the temperature was 103·1 F. The horse was induced to get upon his feet, but only remained standing with difficulty, and was somnolent.

Percussion revealed the area of cardiac dullness greatly extended. Auscultation gave irregular cardiac sounds, which were lacking in clearness; and Hauben diagnosed dilatation of the heart with valvular insufficiency. Derivative treatment was applied externally, and an electuary containing digitalis was given internally, but the horse rapidly became worse and died within 48 hours.

Post-mortem, the only lesions found were those of the heart, which was very sensibly augmented in volume, but was less firm in consistence than is normal. Upon section the cavity of the right ventricle, which was considerably dilated, was almost completely filled by a tumour, yellowish in colour, with an irregular surface and of a soft consistence. This tumour was 6in. long, 2 4-5in. broad, and 2in. thick. It was swollen in its middle part, and was attached to the auriculo-ventricular ring by a rather long pedicle. This disposition allowed it to float freely in the ventricular cavity, and there to undergo comparatively considerable displacements. The right auricle showed no abnormality.

The left ventricle contained a tumour analogous to that just described, but of smaller dimensions. This tumour was about two inches long, and of the thickness of the thumb. It was attached to the base of the sigmoid valves by a pedicle. Both tumours, upon section, appeared identical in structure, being homogeneous and presenting all the macroscopic characters of myxomatous tumours.—*Annales de Méd. Vét.*

Periosteotomy in Spavin.

Wester *(Tijdschrift voor Veeartsenijkunde)* describes three pathological conditions of the hock under the name of spavin; these are (1) osteo-arthritis of the tarsus without exostosis, (2) osteo-arthritis of the tarsus with exostosis, and (3) peri-arthritis of the tarsus, without alteration of the articular surfaces.

In the first variety there is only lameness without deformation of the hock. Recovery may sometimes take place without exostosis ever appearing; more frequently, however, exostosis does appear at the end of a certain time. This spavin commences by an osteitis in the tissue of one bone of the tarsus; the Haversian canals become dilated and filled with a gelatinous material, and at a later stage several of these canals became confluent and give rise to a lacunary centre of rarefying osteitis. At this moment lameness is already visible. It is possible that one of these centres of osteitis may remain limited to one bone of the tarsus and the condition terminate in recovery; but generally the lesion extends until it reaches the articular cartilage, and there causes a loss of substance which rapidly entails lesions of the opposing cartilage. Anatomically, the condition may then be described as an osteitis within the substance of two bones of the tarsus with dry arthritis of corresponding articulation.

Very often, however, the centres of osteitis are situated very near the periosteum, and the latter, being irritated, quickly forms a new osseous layer, constituting an exostosis. In this case (the second condition in the author's classification) the spavin consists of an osteitis, an arthritis, and a periostitis.

At first the exostosis consists of very soft tissue, in the midst of which calcareous salts are deposited at a later stage. The firmer the consistence of the exostosis, the more nearly it approaches the ultimate stage of the lesion. The exostosis generally proceeds from two bones simultaneously and provokes peripheral anchylosis, which may be considered as tending towards recovery.

Peri-arthritis of the tarsus (the third condition described by the author) is sometimes manifested by voluminous exostoses of the internal aspect of the hock without lameness; in these cases the articular surfaces are normal and the inflammation only extends to the periosteum and the superficial osseous layer. At a later period the articular surfaces may become altered, and osteo-arthritis supervene. The development of the disease is therefore centripetal in this case, while in the ordinary spavin it is centrifugal.

As regards the treatment of spavin, the author doubts the efficacy of both blisters and superficial firing. He believes that the hyperæmia which these measures excite does not extend to the depth of the tarsus, and suggests that the cases in which they have been beneficial should be regarded as peri-arthritis. Deep or penetrating firing with the needle iron is, the author admits, one of the best methods of treatment, but it is attended with the danger of causing serious damage by penetrating the articulation. Cunean tenotomy sometimes causes an immediate amelioration, but this is rarely durable. After having employed the majority of the usual methods of treatment, the author has finally given the preference to periosteotomy.

His method of operation is a modification of that of Peters, and is described as follows. The horse is thrown with the limb to be operated upon undermost, and the upper limb is brought forward as for castration in the lateral position, thus exposing the field of operation. The skin is shaved, disinfected, and finally washed with alcohol. An incision from one-third of an inch to half an inch long is made at the inferior border of the spavin, and the skin is then separated from the underlying tissues by

introducing a narrow seton needle or one blade of a pair of scissors. This subcutaneous separation of the connective tissue is made from below upwards in two directions so as to form a triangle, each side of which is about two inches long, the apex being at the cutaneous wound. Then, with a Peters' spavin knife (a curved bistoury, the convex edge of which is the cutting one, and having a rounded cutting point like a table knife), a double incision is made through the cunean tendon with a sawing movement until the knife reaches the bone; a third incision is then made between the two first ones in such a fashion that all three converge at the cutaneous wound. Care is necessary to avoid injuring the articular *cul-de-sac* of the astragalus.

The operator arrests hæmorrhage by allowing a tampon to remain in the wound for some moments, and the wound is then closed by two sutures of silk. The whole of the shaved region is washed with alcohol and well dried, and then painted with a solution of one part of caoutchouc to ten parts of chloroform; the coating thus obtained is covered with a small strip of iodoform gauze, and finally a thick layer of iodoform-collodion is applied over the whole. As soon as the region is quite dry, the horse is allowed to get up without applying a bandage.

During the first few days after the operation, the horse should be kept standing and remain as still as possible. A mercurial blister may be applied after six or eight weeks, and at the end of the eighth week, the horse should have walking exercise for half-an-hour daily: Work may be resumed twelve weeks after the operation.

The degree of resistance which the knife encounters when it reaches the exostosis is of use in prognosis; the harder the exostosis, the more favourable the prognosis.

The operation is attended by little danger. Opening into the articulation may be feared, but this is only possible as regards the *cul de sac* of the astragalus, and is easily avoided by limiting the anterior incision.

The time required for cure is certainly long, but the author has ascertained that, even if the lameness disappears after six or eight weeks, it is prejudicial to the success of the operation to work the horse before twelve weeks have expired.

The operation may be followed by the development of a voluminous exostosis. This does not constitute a serious objection, for it contributes to anchylosis.—*Annales de Méd. Vét.*

Bovine Bacillary Pyelo-Nephritis.

Ritzenthaler (*Journal de Méd. Vét. de Lyon*) discusses this disease, and draws the following conclusions from his own study of its lesions and the various previous communications regarding its etiology.

Microscopic study of the renal lesions in *very recent* cases reveals the *Corynebacillus renalis bovis* in all the elements of the kidney, including the malphigian bodies. This bacillus decomposes urea, forming carbonate of ammonia, which produces a chemical necrosis of the tissues. Later, in the subacute and chronic stages of the disease, the *Corynebacillus renalis bovis* is only encountered in the inferior extremity of the straight tubules and is then always found associated with other micro-organisms.

The lesions noted as concurrent with the bacillary invasion are hyperæmia of the parenchyma, interstitial hæmorrhages and hæmorrhages into the uriniferous canaliculi, obstruction of the tubules by plugs of albumen and leucocytes, and degeneration and desquamation of epithelium.

The later stages of the affection are characterised by processes of repair and substitution which vary with the intensity of the attack. Diminution of the secretory elements of the kidney, augmentation of the number and calibre of the vessels with a thickening of their walls, considerable development of the interstitial tissue, and often an almost complete sclerosis of the renal parenchyma, are observed.

If stenosis occurs during the course of the malady, hydro-nephrosis follows, and a cystic kidney is the result. Almost all the cases in which the author has failed to find the *Corynebacillus renalis bovis* have been those of cystic kidneys—that is to say old cases in which the disease is already far advanced. The affection is really a polymicrobial one, for though the *Corynebacillus renalis bovis* is nearly always found alone at the commencement of the disease in the abscesses and centres of softening in the cortical zone of the kidney, yet in the renal pelvis it is invariably found associated with ordinary pyogenic organisms, and secondary ascending infections by the latter are of importance in the later stages of the disease. The various species of micro-organisms thus present in the exudate and the urine may, in time, be reduced to one which has been better favoured than the others by circumstances of medium and concurrence; and cystic kidneys therefore often contain only one species of bacterium.

The *Corynebacillus renalis bovis* is widely distributed. Its growth is favoured by contact with urine, which it decomposes, liberating ammonia; and the latter fact probably explains its deleterious effect upon the kidney.—*Annales de Méd. Vét.*

W. R. C.

LEUCODERMA AND PALAEOGENESIS.*

Sir Jonathan Hutchinson explains the dappled skin of leucodema as a revelation of a pigment pattern pre-existing in the skin, Both to medical men and to biologists his explanation will be of great interest. The curious mottled appearance may well be accepted as atavistic; but the complete truth appears to be much more wonderful than that.

Biologists have taught that every animal in the course of development climbs up its own genealogical tree; indeed, the leucodermic "patient" climbs both up and down it, if one claim him as a reversion to ancestral type. The human embryo exhibits the gill clefts of a long-vanished fish ancestor; in the early stages there is

* *The British Medical Journal*, April 23. See also *The Veterinary Record*, June 25, p. 845.

little difference between the fetus of a lizard and that of a mammal. Each of us has a larynx dimpled by the ventricles of Morgagni—the last remnants of a howling organ; the occasional presence of a scansorius muscle recalls the epoch when climbing was a necessary accomplishment, Similarly, the dusky skin of primitive man reappears in leucoderma; in some instances the ingestion of arsenic appears to "develop" a sepia-coloured "eruption" on a clear skin as a negative is developed on a photographic plate. The *white* areas of leucoderma appear capable of a still more singular explanation.

In mammals which are variegated when young, self-coloured in maturity, a remarkable sequence of colouration has been traced by Eimer. The stages appear to be: (1) Longitudinal stripes, which break up into (2) rows of spots. These spots develop (3) cross stripes, which fuse to constitute a mottled network. (4) Self-colour is then obtained by the interstices of the network becoming suffused with the superposed colour, thus drowning the ground tint.

According to the theory of palæogenesis, the dusky areas of leucoderma are atavistic; they represent the skin of primitive man. According to the colour theory of Eimer, the white areas correspond to the rows of spots of mammals, which will eventually—speaking in a phylogenetic sense—entirely replace the pigment, so that the dusky skin becomes white. Two objections to these explanations may be advanced. In the first place, the orderly, well-defined spots of mammals bear little resemblance to the blotches of leucoderma; in the second place the intensified, blackish pigment round the white patches shades off into the normal skin, also wholly unlike any animal variegation. Let us deal with these objections.

1. Mammalian pigment is remarkably constant in character, consisting of various forms of melanin—probably derived from the hæmoglobin of the blood. Now melanin occurs in the Malpighian layer of the skin; it also occurs in the cortex of mammalian hair. Pigment of skin and of hair are, in fact, identical; any properties conceded to one must be granted to the other, pigmentation of skin or of hair following the same laws. The same also applies to failure of pigmentation.

In animals of mutable colouration the winter coat is always white. In man freckles appear in summer, to fade in autumn (= failure of skin pigmentation). In Arctic animals the fur is coloured in summer, white in winter (= failure of hair pigmentation). The white coat of the Arctic fox is caused by whitening of the hair-tips, the change gradually creeping downwards until the grey hairs, at first white-tipped only, are at last entirely blanched. But all the foxes do not turn white in winter; grey patches are mixed freely with the white—the animal becomes blotched, "dappled," even (zoologically speaking) leucodermic. The white fur is irregular and patchy, like the white areas of leucodermic skin.

2. Dealing with the second objection, the irregular intensification of the pigment, it should be noted that, although the genealogical tree may be duly climbed, some of the stages are apt to be compressed or slurred over. In cases assumed, like the present, to be reversions to type, imperfection of execution is almost to be expected. The evolutionary clock, rusted and worn, not only makes a sudden circuit, but makes it *backwards*; little wonder if the type of pigmentation differs somewhat from the original. Even amongst mottled and dappled mammals now living, one finds enormous variation within the limits of a single species—dogs and horses for example.

ROYAL VISIT TO THE ARMY VETERINARY SCHOOL.

During the recent stay of their Majesties the King and Queen at Aldershot, the Army Veterinary School was honoured by a visit of inspection. Their Royal Highnesses the Duke and Duchess of Connaught formed part of the Royal suite, while Sir Horace and Lady Smith-Dorien and the principal members of the Aldershot Command Staff were also present.

The Royal party were met, at the School Gate, by Colonel R. Pringle, C.B., D.S.O., by whom Major A. C. Newsom, Professor in charge of the School, had the honour of being presented.

The School operating room was seen first. Here much interest was taken in a radiographic installation which has recently been completed. His Majesty was interested in the fluorescope, in the use of which he asked for special details. Her Majesty and Her Royal Highness the Duchess of Connaught expressed astonishment on learning that skiagrams of the limbs of horses could be taken with the new outfit in such short periods as to be practically instantaneous. A Small and Roy outfit for field work was examined with interest, as were other appliances for the application of electricity in the treatment of equine ailments, the applicability of which to service conditions is at present under trial by the School Staff. Her Majesty and Her Royal Highness the Duchess of Connaught asked a number of very pertinent questions on the subject of the employment of anæsthetics in equine surgery, the methods of and dangers connected with their administration, their after effects and so on, evincing altogether more than a mere passing interest.

The school lecture room next received attention. Here incidentally the system of instruction to the various classes of officers, non-commissioned officers and men of the Combatant branches of the Regular, Reserve, and Territorial Army was explained. From the attention paid by the Royal party to cases of specimens, diagrams, projection lantern, etc., it was evident that great interest was taken.

The next move was to the Laboratory. Here a class of probationary officers of the Army Veterinary Corps were found at work under the Assistant Professor. His Majesty expressed himself as pleased to hear that, in addition to the teaching, the details of which had been explained, experiments on matters likely to prove of interest or use in the Service were carried out and that material or subjects connected with the ailments of Army horses from any part of the United Kingdom or Ireland, requiring special investigation were forwarded for necessary action.

Time did not permit of a further prolongation of the visit, at the conclusion of which His Majesty expressed himself as very pleased with all he had seen and heard; so much so, indeed, as to be more than glad that he had come.

His Royal Highness the Duke of Connaught made a special point of saying how much he was struck with the changes for the better which he noticed since the time of his holding the Command at Aldershot.

The "Vetting" for the Cawdor Cup.

All the female Clydesdales examined by the veterinary surgeons for the Cawdor Cup competitions passed. The inspectors were Messrs. Andrew Robb and Richard Rutherford, with Principal M'Call as inspector-in-chief and oversman. The arrangements worked without a hitch, and the plan of sending the first and second in each class to the "vetting" enclosure gave ample time for inspection, and caused no delay at the finish.

DISEASES OF ANIMALS ACTS 1894 TO 1903, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Counties Affected	Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Animals Attacked	Out-breaks	Out-breaks.	Slaughtered *
GT. BRITAIN. Week ended July 30	19	26	1	1	7	19		3	26	225
Corresponding week in 1909 ...	18	23			8	18	Essex 1	1	45	454
Corresponding week in 1908 ...	18	23			15	32	London 10	...	28	195
Corresponding week in 1907 ...	9	15			28	37	Middlesex 2	1	56	281
Total for 31 weeks, 1910	906	1099	2	15	220	655	Suffolk 1 Sussex, E. 1 Warwick 4	329	910	8239
Corresponding period in 1909 ...	825	1103			346	1294		464	1143	10186
Corresponding period in 1908 ...	698	940	3	112	505	1558		633	1373	7414
Corresponding period in 1907 ...	682	902			568	1315		407	1615	7511

Board of Agriculture and Fisheries, Aug. 2, 1910. Parasitic Mange (outbreaks)

IRELAND. Week ended July 23	...	...	...	...	...	...	...	2	3	15
Corresponding Week in 1909 ...	...	...	...	...	...	...	2	3	...	12
Corresponding Week in 1908 ...	...	...	...	...	...	...	...	1	1	114
Corresponding Week in 1907 ...	...	...	...	...	...	4	2	...	10	89
Total for 30 weeks, 1910 ...	5	8	...	...	1	2	43	340	65	1558
Corresponding period in 1909 ...	3	3	...	...	...	...	61	305	73	1311
Corresponding period in 1908 ...	5	8	...	...	...	...	26	271	124	2688
Corresponding period in 1907 ...	1	2	...	...	3	7	57	185	84	1335

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 27, 1910

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Aberdeen C.C. and Anthrax.

Mr. H. D. M'Combie, Milton of Kemnay, moved at the meeting of the County Council of Aberdeen that bacteriological examination of animals dead of anthrax be discontinued. He argued that this was a national question. Mr. Runciman seconded. The Convener, Mr. Gordon of Newton, moved as an amendment that, in respect that the Board of Agriculture are considering the issue of a revised Order at an early date, designed to secure a more uniform and more efficient method of diagnosis, the Council represent to the Board that verification of the local inspectors' diagnosis be undertaken by the Board themselves, and that meantime the system of verification at present existing in the district be continued. On a division the amendment was carried by 19 to 15.—*N. B. A.*

Uniformity in Meat Inspection—Scotland.

At the annual summer Conference of the Scottish Chamber of Agriculture held in the Music Hall, Aberdeen, on Friday, 1st July :—

Mr. Alex. Glendinning, Newmains, Kirkliston, moved :—"That the Chamber express satisfaction that the Secretary for Scotland has consented to receive a deputation as to the introduction throughout Scotland of a uniform system of inspection and standard of adjudication of meat, and also in favour of the appointment on the staff of the Local Government Board of a veterinary surgeon with practical experience to supervise the work of inspection, so as to secure uniformity."

He said that in 1908 a Royal Commission sat on this question, and as the result of the information they got from witnesses appearing before them they declared that the system was simply chaotic. The actual facts were that the inspector of a district acted upon his own judgment, because he had nothing else to act upon. The result was that a carcase might be passed in one market, sent on to another and there condemned. It was obvious that if they were to have a uniform system they must have a standard formulated, and in order to have that standard formulated they asked that a veterinary surgeon of experience should be appointed through the Local Government Board, so that he might formulate and supervise the administration of the regulations throughout the country. He did think that in Scotland they should have what in Germany was called the "freibank," where secondary meat that would be good for people to eat, but of secondary quality, should be passed as such and sold for half-price to poor people, who would be thus protected against purchasing meat which was not only inferior, but unfit for human food. (Hear, hear.) That, however, was a detail. The result of this tuberculosis Royal Commission was that they sent in recommendations to the Local Government Board. These recommendations were endorsed by the Board, but were rendered nugatory because there was no veterinary expert at the head ; and he found from an examination of the report that, for instance in some districts south of the Tweed they had retired plumbers, carpenters, and others doing the work of inspection. In Edinburgh they found a most rigid inspection, so that carcases which would not pass in one place could never for a moment pass in the other. Moreover, there was another very important point which affected Scotch agriculturists, and that was the difference between foreign meat, as such, and our own home-fed meat. As they knew,

there were two or three different ways of examining for tuberculosis. As was done frequently in Scotland, an animal examined within twenty-four hours of slaughter was seen along with the offal, pleura, and viscera, as well as the carcase, whereas with foreign meat there was nothing seen but the carcase, and there was nothing to judge it by except that. This handicapped home-produced beef. He thought they would see that the handicap was very serious. He moved the resolution as stated. —*The Scottish Farmer.*

A Question of Soundness.

The spinning at the recent Limerick show of the thoroughbred stallion East Lone for a ringbone on one of its forelegs has had an interesting sequel in the form of a letter from the owner, Mr. M. L. Bourke, of Tiermora House, who produces certificates signed by Mr. F. B. Hayes, M.R.C.V.S., and Mr. R. J. Murnane, M.R.C.V.S., who independently examined the horse on 6th and 15th insts. respectively, and certified that "he is free from hereditary disease, and sound for stud purposes." Mr. Bourke states that it is a well-known fact, at least by race-goers, that the horse split a pastern when racing, and consequently developed an enlargement. He had been bought some time afterwards by the Agricultural Society, had been passed sound by their V.S., and was sold by them sound, and at a sound price. In 1908 he took second prize at Limerick Show, and has certainly already proved himself a sire of high-class horses. In 1909 his colts took five prizes at Limerick, viz., one first, two seconds, and two thirds. This year his produce got two firsts, two thirds, a highly commended, and a reserved, at Limerick. Mr. Bourke leaves it to the public to form their own views on the subject.—*The Farmers' Gazette* (Dublin).

Development of Trypanosomes in Tsetse flies

Mr. A. B. Kempe, Treasurer and Vice-President, in the Chair, Colonel Sir David Bruce, C.B., F.R.S., A.M.S.; Captains A. E. Hamerton, D.S.O., and H. R. Bateman, R.A.M.C.; and Captain F. P. Mackie, I.M.S. (Sleeping Sickness Commission of the Royal Society, 1908-9), contributed a paper on the development of trypanosomes in tsetse flies. Until the end of 1908 it was believed that tsetse flies acted merely as mechanical agents in the transference of trypanosome diseases. The parasite was supposed to be carried by the fly in the same way that vaccine lymph is carried on the point of a lancet from one child's arm to another. The limit of time of infectivity of the fly was placed at forty-eight hours, and it was believed that if an infected area were emptied of its sleeping sickness inhabitants for a couple of days it would then be quite safe for healthy persons to enter it. At the end of 1908 Kleine made the discovery that a tsetse fly could convey a trypanosome for some fifty days after the fly had fed on an infected animal. The experiments were carried out on these lines in Uganda. Both lake-shore and laboratory-bred flies (*Glossina palpalis*) were used, and various trypanosome diseases besides sleeping sickness were experimented with. Tsetse flies are numerous on the lake-shore, 500 or more being caught every day by a few fly-boys. The flies brought up from the lake-shore were found to be naturally infected with at least two species of pathogenic trypanosomes, so that it was afterwards found necessary to use flies bred in the laboratory from pupæ gathered on the lake-shore. At first it was difficult to find these pupæ, but after some time the supply was more than sufficient, as many as 7,000 being brought up in one day by a few natives. These experiments go to show that a late development of trypanosomes takes place in about 5 per cent. of the flies used. This development of trypanosomes in the inside of a fly renders the fly infective and capable of giving the disease to the animals it feeds on. The shortest time which elapsed before a fly became infective after feeding on an animal infected with sleeping sickness was 18 days, the longest 53 days, and the average 34 days. An infected fly has been kept alive in the laboratory for 75 days, and remained infective during that time. It is not known how long the tsetse fly may live under natural conditions on the lake-shore. Experiments made to test directly the duration of the infectivity of tsetse flies show that they can retain their infectivity for at least two years after the native population has been removed from the fly area.—*British Medical Journal.*

Chloroform Narcosis and Infection.

In a contribution to *Morgagni* Dr. G. Zancarini gives an account of some observations carried out by him on animals and man to determine the effect of chloroform vapours upon the mucous membrane of the respiratory passages. He finds that chloroform narcosis produces a marked irritation and congestion of the nasal mucous membrane, which may even attain to an actual rhinitis. Microscopic examination of the nasal secretion shows an abundance of shed epithelium more or less degenerated. This active destruction of epithelium, which under normal circumstances offers resistance to the invasion and multiplication of microbes, renders conditions more favourable for the latter, and the author finds a notable increase in micro-organisms in the nasal fossæ in comparison with the condition previous to chloroformisation. By a series of researches the author finds further that in ordinary conditions pathogenic microbes are unable to reach the general system through the nasal mucous membrane, but after chloroform inhalation this barrier breaks down, and in animals in which some form of traumatism was produced under chloroform narcosis and certain microbes injected into the nose, these same microbes were found at the seat of the lesions. From these experiments the author draws the conclusion that post-operative infections in cases in which absolute aseptic precautions have been taken, may be due to the invasion of pathogenic micro-organisms through the irritated nasal mucous membrane. He suggests that chloroform should be administered as sparingly as possible so as to prevent irritation of the respiratory mucous membrane, and that special antiseptic precautions should be taken subsequently to prevent infection in this manner. If such are the risks with chloroform administration, they must be much intensified in ether narcosis, in which irritation of the respiratory passages is much more marked.

A Theory of Anæsthesia.

Dr. Burker, of Tubingen, has carried out some interesting experiments with ether, from which he deduces a new theory to explain the narcotic effect of this and other anæsthetics. By adding ether to water in a voltameter he finds that a large quantity of gas is evolved at the cathode, composed of hydrogen and ether in definite proportions, according to the law of Faraday. At the anode he obtained carbonic acid gas, carbon monoxide, and acetaldehyde. He suggests, therefore, that the anæsthetic action of these narcotics results from their exhausting the supply of oxygen in the tissues. A substance would consequently have the greater anæsthetic effect the more it exhausted the oxygen of the tissues. In the condition of anæsthesia the nerve cells possibly become saturated with the anæsthetic, which would fix the oxygen they contain, causing in some measure their asphyxia. In criticising this hypothesis Dr. Huebner points out that if the degree of anæsthetic action of a substance depended upon its oxidation power, it is not explainable why alcohol is a mild anæsthetic and chloral hydrate a powerful one.

Their Majesties leaving the Army Veterinary School, July 15th.

H.R.H. The Duchess of Connaught shaking hands with Col. Pringle, Sir Horace and Lady Smith-Dorrien in the background.

CEYLON. REPORT FOR 1909 OF MR. G. W. STURGESS M.R.C.V.S., THE GOVERNMENT VETERINARY SURGEON.

[ABSTRACT].

Staff.—Mr. E. T. Hoole, Kandy, Assist. Vet. Surgeon. Eight Stock Inspectors, with two new Inspectors, from March 1, 1909, and seven Temporary Inspectors also employed on rinderpest duty during part of the year.

I have to thank all the staff for good work carried out during the year, sometimes under very difficult circumstances. Mr. H. Engelbrecht did excellent work in the Hambantota District, especially in connection with bile inoculation during the period of his employment.

Office work since rinderpest broke out has been extremely heavy. A new office and laboratory has been sanctioned by Government, and will be erected in 1910. Present accommodation is now inadequate.

Rinderpest continued from last year and occurred in all Provinces, except the Northern. The Eastern and Uva Provinces and the Hambantota District of the Southern Province suffered most.

Towards the latter part of the year there was a general subsidence in all Provinces, and by December 31 there was comparatively little on hand. Recrudescences are to be expected here and there before the disease is got rid of. Every care is taken to guard against its introduction by importation, by detention and examination at Tuticorin, and ten days' quarantine here on arrival, and very little more can be done. The only really effectual way is to close the door altogether, but that cannot be done, as we are dependent upon India for our large draught cattle and a great number of cattle for the meat supply of Colombo.

In this outbreak wild boars have died in considerable numbers, and from Stock Inspectors' reports I have noticed they are generally found dead in or near water. The symptoms are diarrhœa, watery discharge from the nostrils, and great excitement when ill, and on this account very dangerous to approach. Deer have also been found dead, but to a much less extent than wild pigs.

Treatment.—Several prescriptions were forwarded to me during the year, and details were communicated to inspectors working in the Provinces, who report little success. They were principally composed of astringent barks and leaves with onion, garlic, king cocoanut flower, camphor, ginger, chilies, etc.

Referring to the leaflet published in my last report giving a line of treatment, camphor added to the oil and turpentine given in the early stage is an improvement, and so far the treatment there laid down has given the best results, and several owners have reported very favourably upon it. I also tried quinine, carbolic acid, glycerine, and distilled water hypodermically, but results were not encouraging.

Mortality has been very severe amongst buffaloes. This may be due to great susceptibility to the disease, or to the disease in association with a diseased liver due to the presence of enormous numbers of a small parasite (an Amphistomid fluke) in the bile ducts. These can sometimes be taken from the bile ducts in handfulls, and are found in a very large percentage of Ceylon buffaloes.

Inoculation.—Anti-rinderpest serum obtained from the Imperial Bacteriological Laboratory at Muktesar was used in 10 c.c. doses in most instances, and in cases where great infection was probable contacts received 20 c.c.

	Inoculated.	Became ill within month after inoculation.	Recoveries.	Deaths.
Serum	950	162	87	75
Glycerinated bile	184	58	8	50

Foot-and-Mouth Disease.—This disease was prevatent in all Provinces, except the Eastern and Uva.

Rabies.—Thirty-one positive cases were examined at the Bacteriological Institute during the year: From Colombo 10, Kurunegala 6, Galle 5, Madulkele 1, Galaha 1, Kandy 5, Jaffna 3, total 31. Thirty-four patients from Ceylon were treated at the Pasteur Institute at Coonoor during the year, against 22 in 1908. I am indebted to Dr. Castellani, of Colombo, and Major Cornwall, of the Coonoor Institute, for the above information.

In each outbreak active measures were taken as regards seizure and destruction of stray dogs. It is curious that on November 8 I received reports from Jaffna, Kandy, and Galle in the course of the day, the north, centre, and south of the island.

Other Work.—The horses of His Excellency the Governor's Escort, the draught bulls of the Public Works Department, Convict Establishment, and Botanic Gardens, as well as the Government Dairy and Model Farm cattle have been attended as required.

I assisted in judging the live stock and dairy produce classes at the Galle Show in June. In December I inspected 91 C. M. R. horses in connection with a proposed scheme of insurance by Government.

Blood parasites.—In June on microscopical examination of the blood of a bull which died suddenly any number of curious oval parasites were found. The parasites were thought to be sarcospores, but are yet undetermined. Beyond a few petechial spots on the pericardium and large blood vessels near the heart and a little straw-coloured serum in the pericardium, there was nothing found on post-mortem to account for death otherwise.

Equine Influenza.—Towards the latter end of the year there was an epidemic of influenza amongst horses. The symptoms were fever, lassitude, profuse nasal discharge, and cough. The disease ran a mild course, and in most cases resulted in recovery within ten days under proper treatment.

Food Imported in dirty river Ice.

At a meeting of the Hull and Goole Port Sanitary Authority, held in the Hull Town Hall on the 28th ulto., Alderman Askew presiding, a report was presented by Mr. James McPhail, food inspector, relating to a consignment of "offal" from Harlingen. ("Offal," it should be explained, consists of the liver, heart, and other internal parts of cattle, sheep, and pigs, which are used for food, large quantities of which come to Hull from foreign ports, and are in great part sent forward to inland towns). Mr. McPhail said:—

"We have been having fresh offal arriving here packed with natural ice. This ice, in melting during the course of a voyage, leaves a deposit of all sorts of river filth. Owing to the fact that cholera, etc., is not unknown in these waters, the danger is obvious. I informed the person to whom this natural-ice-packed offal was consigned that I should seize the next lot, and the owner of the offal in question has ceased sending it. It would be well if the authorities at Grimsby, Harwich, and other ports on the East Coast, receiving fresh offal, could have their attention directed to this contamination."

Dr. Wright Mason, Medical Officer of Health, stated that a copy of Mr. McPhail's report was sent to Dr. Buchanan, of the Local Government Board, and had been acknowledged with the remark that the point raised by Mr. McPhail was an important one.

It was resolved to draw the attention of the Association of Port Sanitary Authorities to the matter.—*Meat Trades Journal.*

The National Meeting—Instruments, Drugs, &c.

There was, as usual, a room for exhibits, and the firms exhibiting had arranged an attractive show. The number of exhibitors was less than we have seen on other occasions—very possibly from the fact that the meeting was in London, where several of the firms are at home.

Messrs. Willows, Francis, Butler and Thompson. This old established firm had a tasteful and attractive display of a number of their preparations, most of which are well known to the profession.

Messrs. Arnold had several new instruments for the operation for roaring, suggested by several operators—Prof. Macqueen and others; and various patterns of bistouries, forceps, emasculators, écraseur, etc.

Messrs. Parke, Davis, and Co. a good show of their special preparations, put up in an attractive manner and with consideration for the requirements of the practising V.S. This firm's goods lose nothing by longer acquaintance, and are carefully standarised.

There was a stand devoted to "Novocain" (the Saccharin Corporation, Ltd.), for which it is claimed that its anæsthetic action is equal to that of cocaine, and its toxicity and general destructive power on the tissues are very much less.

Messrs. C. H. Huish and Co. Most of their advertised instruments were on view—Mouth gags, tooth rasps, inseminators, milk fever sets, and others, which are nearly all well known to the profession.

Messrs. C. J. Hewlett and Son were showing a variety of their "Veterinary packed drugs," supplied only to the veterinary profession, including Antiseptic dusting powder, Condition powder, Dog wash, Belladonna electuary, Red drink for cattle, and White embrocation. Also a range of Canine pessaries in three sizes, and their "magnum" for large animals, from 9 formulæ (from special formulæ when desired): and their established proprietary remedy in colic, Parophyroxia.

"Kreasole" (the Coal Tar Disinfectants Co.) various preparations—Germicide, Disinfectant, Deodorant. In soaps, fluid, ointment, etc., this preparation has been in use for over 20 years, and has maintained its reputation as an effective preparation.

MOBLEY'S PATENT HORSE SLINGS.

Mobley's patent slings have been designed with a view to give comfort to the horse and ease of handling to the stableman, and are highly spoken of by eminent veterinary surgeons.

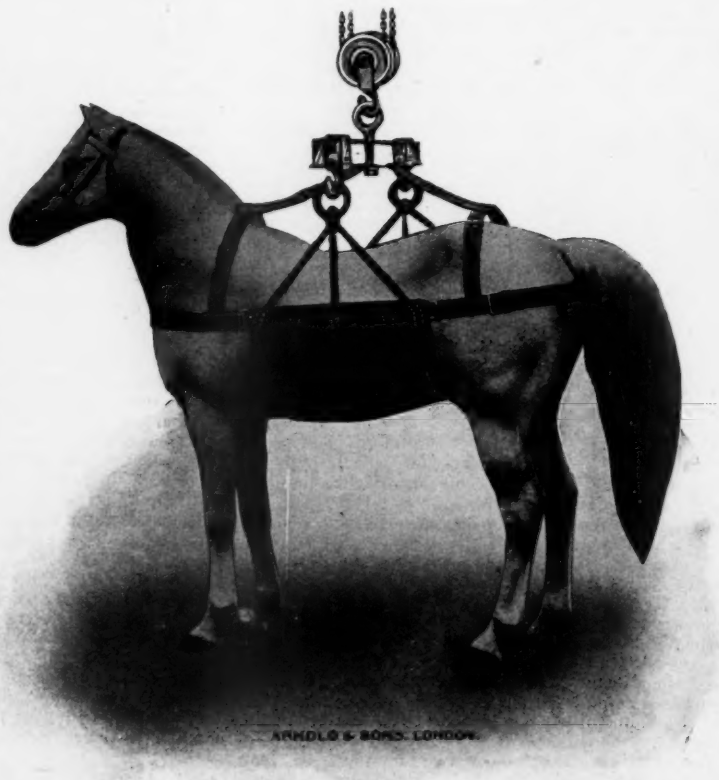
The following are a few of their many good points:—

1. Makes its own adjustment to the width of the horse, and should the horse rest the weight of its body on the slings no extra pressure is caused to any part of the horse's body, owing to the automatic adjustment.

2. To the centre of cross bars is fixed a plate (not found on any other make of slings) for securing the breeching and breast straps, and no matter how restless the horse may be, it cannot fall out of the slings.

3. The slings being hung on loose centre pin enables the horse to move about without affecting the position of sling on body.

4. Prevents chafing. The whole of the bedding is lined with thick special felting, this prevents chafing or sores being caused if the horse is restless. Also if a horse sweats, any moisture is quickly absorbed by the felt bed and still keeps warm, unlike leather or canvas lining which when wet is apt to give a sickly horse a chill.



The makers are Messrs. Arnold and Sons, West Smithfield, London, E.C.

Dairy Cattle: The Tuberculin Test.

An interesting feature of the dairy cattle section at the Yorkshire Show last week was the introduction of a class for animals that had, within eight weeks of the show, been subjected to the tuberculin test by a Fellow or Member of the Royal College of Veterinary Surgeons, and had not reacted. The addition of this class was agreed to by the Council of the Society on the representation of Mr. E. E. Lawson, ex-Chairman of the Leeds Corporation Sanitary Committee, who has long interested himself in the subject. It is a significant fact that of the ten animals entered only three were brought into the ring, the assumption being that most, if not all of the other seven had reacted to the test. Many farmers had welcomed this opportunity of showing their anxiety to possess animals free from any taint of tuberculosis. In some cases they purchased two or three cows with the intention of entering them for the competition. One farmer states that both the animals which he had tested reacted, while in another case one of three did so. This, they say, involves a serious loss to them, inasmuch as the value of an animal deteriorates if it does not come out of the test satisfactorily, and they urge with renewed emphasis that, in the interests of public health, dairy farmers should be compensated out of the Imperial Exchequer for all tuberculous animals that have to be slaughtered. The Yorkshire is the first show to adopt a class of this kind.—*M.T.J.*

Abdominal Applications of Radiant Heat.

In a contribution to *Le Progrès Médical* Dr. Miramond de Laroquette, of Nancy, discusses the treatment of post-operative conditions following laparotomy—shock, intestinal paresis—by the local application of radiant heat and light to the abdomen. He thinks that by this simple means such conditions, whether appearing immediately after operation or later, may be arrested or even prevented, and he suggests that this form of treatment may also be able to combat milder forms of peritonitis by the congestive reaction which it sets up. He gives an account of several cases in which the adoption of the treatment was followed by striking and immediate results, so that from the details given one seemed fully justified in attributing the successful issue to the heat and light appliances. Experiments on animals have demonstrated that these radiant heat applications produce an intense hyperæmia of the peritoneum and mesentery with a local as well as general rise of temperature and a marked increase in peristalsis of the bowel.

Ancient Religions and Hygiene.

The sacred books of most religions contain excellent sanitary precepts which, while based merely on an intelligent observation of Nature, are often startlingly accurate in their effectiveness.

The Journal of Tropical Medicine and Hygiene points out that, so far from being contrary to the religion of any considerable section of the population of India, rat-killing is actually enjoined in their sacred books. According to Hindu ideas, the Vedas stand on even higher authority than is claimed by Christians for their Bible, as they are said not to be merely inspired but to have existed prior to the beginning of time. The following is a translation from Book VI, verse 50, of the Atharva-Veda:—

"Destroy the rat, the mole, the boring beetle; cut off their heads, O asvins,
Bind fast their mouths; let them not eat our barley; so guard ye twain our growing corn from danger.
Hearken to me, lord of the female borer, lord of the female grub! Ye rough-toothed vermin.
Whate'er ye be, dwelling in woods, and piercing, we crush and mangle all those piercing insects."

The journal goes on to remark that the destruction of the flea and mosquito, both piercing insects, is clearly enjoined as well as that of the rat, and it is certain that if the Veda could be literally obeyed by its followers, plague, malaria, and filariasis would be promptly abolished from India, and trypanosomes cease to destroy its cattle. This passage in the original Sanscrit, with a translation into the modern vernacular should be incorporated into a leaflet for general distribution, and introduced into any book prepared for instruction in elementary hygiene for the use of vernacular schools.

Personal.

Mr. D. KEHOE, M.R.C.V.S., who graduated with distinction at the Royal Veterinary College of Ireland and later became a member of the staff, leaves for South Africa to take up a position as Assistant to Dr. A. Theiler, Veterinary Bacteriologist to the Transvaal. A handsome presentation was made to Mr. Kehoe at the College on the occasion of his departure.

Mr. G. BARROW, M.R.C.V.S., of Savernake House, Newmarket, was the breeder of several prize winners—Pekingese, wire-haired terriers, and fox terriers—at the Cambridge Show.

At an examination for Inspectors of Meat and Other Foods, by the Royal Sanitary Institute, held in London, at which 43 candidates presented themselves, of whom 31 were awarded certificates, amongst them:

HEDLEY HOULDEN HARRISON, M.R.C.V.S., Peckham.
JOSEPH MILLWARD, M.R.C.V.S., Wincanton.

ARMY VETERINARY SERVICE.

EXAMINATIONS FOR CAPTAINS FOR PROMOTION TO MAJOR, ARMY VETERINARY CORPS.

VETERINARY MEDICINE.

(Time allowed, 3 hours: 100 marks for each question).

1. What scientific objections have been put forward to the administration of opium compounds in cases of abdominal pain?
2. What effects have been reported to have resulted from feeding horses on (*a*) lupins, (*b*) young green maize, (*c*) oleander niger?
3. Discuss the treatment of equine surra. Give the doses of the various drugs which have been more recently suggested for use in this disease.
4. You are dealing with an outbreak of strangles in a remount depôt on active service in a mild climate. What general line of treatment would you adopt, and what prophylactic measures would you suggest?

VETERINARY HYGEINE.

(Time allowed, 3 hours: 100 marks for each question).

1. You are called in to eradicate tuberculosis in a herd of dairy cattle. What steps would you take? Discuss the different methods of testing with tuberculin, and give scientific reasons why you would adopt one or other of these methods.
2. Draw up a memorandum regarding measures to be taken for the protection of animals passing through a known surra belt of some 20 miles in extent.
3. Describe how a loose box should be disinfected.
4. You are directed to select a site for a Field Veterinary Hospital on the Lines of Communication. What are the points you would consider?

Veterinary Surgery.

(Time allowed, 3 hours: 100 marks for each question).

1. Discuss shortly the forms of arthritis most frequently seen in Army horses, and state the causes to which, in your opinion, each is most usually attributable.
2. What operations, other than tracheotomy, have been suggested for the relief of roaring in horses? Describe the particular operation which has recently been brought prominently before the public in England.
3. What surgical conditions are the most frequent cause of lameness amongst Army horses on active service, and what suggestions would you make for their prevention?
4. What lesions are most frequently seen as sequelæ to iritis in the horse?

Veterinary Bacteriology and Tropical Diseases.

(Time allowed, 3 hours: 100 marks for each question).

1. Define the following terms:—(*a*) Opsonin: (*b*) Anti-serum: (*c*) Sporocyte: (*d*) Eosinophile leucocyte: (*e*) Anti-body.
2. What forms of trypanosomiasis are known to affect equines? Give their geographical distribution, and the morphological appearance of the several organisms. Illustrate if possible with rough sketches.
3. Describe the varieties of ringworm affecting horses, and the several parasites which cause them.
4. Describe the clinical symptoms and treatment of of equine pyroplasmosis. Give differential diagnosis

Management of Epizootic Disease.

(Time allowed, 3 hours: 100 marks for each question).

1. In an expedition on the North-West Frontier of India, with a mixed transport, rinderpest has appeared at several isolated posts on the lines of communication. What steps would you take to prevent it spreading?
2. You are Veterinary Officer in charge of a horse transport on which sarcoptic mange has appeared You have been at sea a fortnight and the voyage will last for 10 more days. Only two animals have shown symptoms of the disease. What steps would you take?
3. What is the known geographical distribution of African horse-sickness? What means can you suggest for protecting animals against this disease:
4. Is there any apparent difference in the propagation of equine pyroplasmosis in Egypt, India, and South Africa? Quote authorities for your conclusions.

General System of Veterinary Administration, Etc.

(Time allowed, 3 hours. 100 marks for each question.)

1. (*a*) How are civil veterinary practitioners paid who are employed during peace? In what books are the terms of their employment to be found?
(*b*) What are the regulations regarding injuries to "General purpose" chargers, and where are they to be found?
2. Give the personnel of a Field Veterinary Hospital for active service in Europe, stating the different sources from which it is drawn.
3. On taking over charge of a station you find surpluses and deficiencies in the veterinary stores. How should these be adjusted?
4. When in veterinary charge of a Cavalry regiment on active service in a European country, you are given a junior officer to take a convoy of 150 sick horses 30 miles to the lines of communication. What marching instructions would you give him, and what establishment would he require?

Extract from *London Gazette*,
War Office, Whitehall, July 22.

Army Veterinary School.

Capt. E. J. Wadley, A.V.C., to be Assistant Professor. Dated July 22.

OBITUARY.

John Teggart, M.R.C.V.S., Dungannon.
Graduated, Edin: July, 1880.

We learn that Mr. Teggart's death occurred early last month.

Thomas James Wilson, M.R.C.V.S., Kirkcaldy.
New Edin: May, 1894.

Mr. Wilson died on July 5.

W. A. Stanway, M.R.C.V.S., formerly of Bridge Street, Stafford.
Lond: May, 1891.

Mr. Stanway, who was 45 years of age, had for the last two years been in the Coton Hill Asylum. The cause of death is given as general paralysis, terminating in broncho pneumonia. Death took place on July 20.

An inquest was held on Mr. Wm. Harland, Registered Practitioner, of Roker, Sunderland, who died suddenly on July 13, aged 71, from heart disease of long standing. (Mr. Harland's name was removed from the Register by order of the Council some years ago).

The death took place at Trinidad, West Indies, on July 24th, of Mr. John Bennett Carruthers, F.R.S.E., F.L.S., Assistant Director of Agriculture at Trinidad. Mr. Carruthers, who was forty-one years of age, was the younger son of Mr. William Carruthers, F.R.S., late of the British Museum, and was educated at Dulwich College, the Royal School of Mines, London, and Griefswald University, Prussia. He was appointed Demonstrator of Botany at the Royal Veterinary College, London, in 1892, and Professor of Botany at the College of Agriculture, Downton, in 1895. In 1898 he was sent to Ceylon on a special mission by the Government and the Ceylon Planters' Association to investigate disease of the cacao tree. He discovered the fungus causing the disease and laid down measures for its prevention and cure, which have been generally adopted. In 1900 he was appointed Mycologist to the Government of Ceylon and Assistant Director of the Royal Botanic Gardens, Ceylon, becoming Director of Agriculture and Government Botanist, Federated Malay States, five years later. He was appointed to the Assistant Directorship at Trinidad last year. He was married to Frances Helen, daughter of the late Mr. A. B. Inglis, of Calcutta and Edzell, Forfarshire.

PUBLIC NOTICES.

JOHN HILL, M.R.C.V.S, F.G.M.A.
(HONOURSMAN AND MEDALLIST)
VETERINARY SURGEON.
ELDER HOUSE EQUINE AND CANINE INFIRMARY.

MR. HILL Begs to announce that he is now performing the latest operation for Roaring in RACEHORSES and HUNTERS. UNSOUND HORSES made SOUND. No more Tubes required. 80 per cent. successes.

[We publish the above but decline the risk of an action for libel by publishing the accompanying letter. The matter is one for the Registration Committee rather than for our pages.—Ed]